

## **ABSTRACT OF THE DISCLOSURE**

The present invention relates to a new guide actuator with high radial direction load capability, which has the purpose of providing a directional force bearing way to common loading method to make the actuator can bear load and transmit with higher accuracy. On design, the present invention has grooves bearing load at the center of the bottom of the U-shape guide structure, and a table is set between two inner side walls of the U-shape guide structure, grooves corresponding to the grooves of the U-shape guide structure being set at the bottom of the table, rollers being set between grooves and grooves to make the table and the U-shape guide structure slide respect to each other with very low friction due to rolling motion of the rollers with high radial load capability.